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10/696,582	10/30/2003	Uwe Kubach	13909-141001 / 2003P00692	7223
32864 7590 07/23/2009 FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER CHAMPAGNE, LUNA	
			ART UNIT 3627	PAPER NUMBER
			NOTIFICATION DATE 07/23/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,582	<b>Applicant(s)</b> KUBACH ET AL.	
	<b>Examiner</b> LUNA CHAMPAGNE	<b>Art Unit</b> 3627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-28 and 30-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-28, 30-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Applicant's submission filed on 4/16/09 has been entered. Claims 1-10, 12-28, 30-38 are presented for examination. Claims 11 and 29 are cancelled.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 12-16, 18, 21, 30, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,362), in view of Asher (4,891,755).

Re claims 1, 21, Cowe et al. teach a method/ computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to load monitoring comprising: monitoring an initial state output signal generated by one or more load sensors positioned about a load storage device (*provide sensor information for generating a first inventory map of said product items stored in said storage volume at a point in time*); monitoring a current state output signal generated by the one or more load sensors (*generate a subsequent inventory map*); and comparing the initial and current state output signals to determine a load change on the load storage device (*compare said first and previous inventory maps*) (See e.g. col. 3, lines 9-24).

Art Unit: 3627

Cowe et al. do not explicitly teach determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, and a pre-stored load associated with the item, wherein the determining is executed by a processor that uses the load change as an input.

However, Asher teaches determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, and a pre-stored load associated with the item wherein the determining is executed by a processor that uses the load change as an input (see e.g. col. 2, lines 10-14, 43-49, 67 + col. 3, lines 1-3, 8-22 - *Accordingly the system of the invention provides means for accurately determining any change of weight of the minibar, said weighing system being connected to computer and recording means whereby the item removed is identified. When used as a separate unit, the minibar is positioned on such unit, and this comprises one or more sensitive sensing elements capable of detecting and identifying by weight change as to which type of item stocked in the minibar has been removed, with means being provided for recording such permanent removal. Any change of the weight of the mini-bar resulting from removal of an item from same is noticed, identified as to the nature of the item and recorded*). As for “determining an identity of an item the pre-stored load associated with the item”, the pre-stored load is interpreted as the original load of the minibar prior to the removal of the item, as described by the

Art Unit: 3627

example in Asher, column2, lines 21-27 , “a loaded minibar of say 40kg total weight, which includes the weight of the removed item”).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., and include the step of determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, wherein the determining is executed by a processor that uses the load change as an input, as taught by Asher, in order to provide accuracy while keeping track of inventory items.

3. Claims 1, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,362), in view of Schneider (5,083,638).

Re claims 1, 21, Cowe et al. teach a method/ computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to load monitoring comprising: monitoring an initial state output signal generated by one or more load sensors positioned about a load storage device ( *provide sensor information for generating a first inventory map of said product items stored in said storage volume at a point in time*); monitoring a current state output signal generated by the one or more load sensors ( *generate a subsequent inventory map*); and comparing the initial and current state output signals to determine a load change on the load storage device ( *compare said first and previous inventory maps*) (See e.g. col. 3, lines 9-24).

Art Unit: 3627

Cowe et al. do not explicitly teach determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, and a pre-stored load associated with the item, wherein the determining is executed by a processor that uses the load change as an input.

However, Schneider teaches determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, and a pre-stored load associated with the item wherein the determining is executed by a processor that uses the load change as an input (*see e.g. col. 14, lines 62-67 + col. 15, lines 1-31*)

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., and include the step of determining an identity of an item associated with the load storage device from a plurality of items potentially included in a load positioned upon the load storage device based on the load change, wherein the determining is executed by a processor that uses the load change as an input, as taught by Schneider, in order to provide accuracy while keeping track of inventory items.

Re claim 12, Cowe et al. teach a method further comprising updating a state model to include the chosen item (*See e.g. col. 24, lines 54-56*).

Art Unit: 3627

Re claims 13, 30, Cowe et al. teach a method further comprising establishing a current state model for the load storage device during a loaded state of the load storage device (See *e.g. col. 5, lines 28-34*).

Re claims 14, 31, Cowe et al. teach a method further comprising updating the current state model pursuant to changes in the load positioned upon the load storage device (See *e.g. col. 24, lines 54-56*).

Re claim 15, Cowe et al. teach a method further comprising positioning the load sensors about the load storage device (See *e.g. col. 9, lines 51-57*).

Re claim 16, Cowe et al. do not explicitly teach the claimed limitations. However, Cowe et al. teach a similar feature (see *e.g. col. 9, lines 17-24*). Therefore It would have been a design choice to include the step wherein the load storage device is generally rectangular in shape and positioning the load sensors includes positioning one load sensor proximate each corner of the load storage device, in order to accommodate specific storage requirements.

Re claim 18, Cowe et al. teach a method wherein the load storage device is chosen from a group consisting of: a pallet; a shelf; a table, a bin, and a shipping container (See *e.g. col. 5, lines 14-20*).

4. Claims 2-9, 19, 20, 22-27, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,362), in view of Asher (4,891,755), in further view of McPherson et al. (4,674,605).

Re claims 2, 3, 22, 23, Cowe et al., in view of Teller et al., do not explicitly teach a method comprising establishing an empty state model for the load storage device during an empty state in which the load storage device does not contain any load; further comprising: modifying the empty state model to generate a current state model pursuant to changes in the load positioned upon the load storage device, wherein the current state model defines the load positioned upon the load storage device during a loaded state.

However, McPherson et al. teach a method comprising establishing an empty state model for the load storage device during an empty state in which the load storage device does not contain any load; further comprising: modifying the empty state model to generate a current state model pursuant to changes in the load positioned upon the load storage device, wherein the current state model defines the load positioned upon the load storage device during a loaded state (*See e.g. col. 1, lines 39-48*).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., in view of Teller et al., and include the steps cited above, as taught by McPherson et al., in order to provide flexibility in ways of generating a current state .



Art Unit: 3627

Re claims 4, 24, Cowe et al. teach a method further comprising: maintaining an item database that includes a definition for each of the plurality items potentially included in the load positioned upon the load storage device, wherein the definition of each item includes one or more parameters that define the item (*See e.g. col. 3, lines 1-4*).

Re claim 5, Cowe et al. teach a method wherein the one or more parameters are chosen from the group consisting of: item name, item part number, product quantity per item, item weight, item height, item width, and item depth (*See e.g. col. 9, lines 56, col. 10, lines 29-32, col. 23, lines 34, 59-60*).

Re claims 6, 25, Cowe et al. teach a method wherein modifying the empty state model includes adding one or more items to the empty state model (*See e.g. col. 24, lines 14-22*).

Re claims 7, 26, Cowe et al. teach a method further comprising updating the current state model pursuant to changes in the load positioned upon the load storage device (*See e.g. col. 24, lines 54-56*).

Re claim 8, Cowe et al. teach a method wherein updating the current state model includes adding or removing one or more items to or from the current state model (*See e.g. col. 17, lines 38-41*).

Re claims 9, 19, 20, 27, 32, 33, Cowe et al., in view of Asher, do not explicitly teach the limitations as claimed. However, McPherson et al. teach a method wherein comparing the initial and current state output signals includes determining a net load change in the load positioned upon the load storage device (See *e.g. col. 3, lines 1-5*); a method wherein the initial state is an empty state or a loaded state; wherein the current state is an empty state or a loaded state (See *e.g. col. 2, lines 6-8, col. 3, lines 1-15*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Cowe et al., in view of Asher, by including the steps of comparing the initial and current state output signals includes determining a net load change in the load positioned upon the load storage device, and wherein the initial state is an empty state or a loaded state; wherein the current state is an empty state or a loaded state, as taught by McPherson et al., in order to allow reading of different states which will make the system more flexible.

5. Claims 10, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671, 362), in view of Asher (4,891,755), in view of McPherson et al. (4,674,605), in further view of Teller et al. (4,961,533).

Re claims 10, 28, Cowe et al., in view of Asher, and in view of McPherson, do not explicitly teach a method wherein comparing the initial and current state output signals further includes comparing the determined net load change to the item weight of one or more of the plurality items potentially included in the load.

Art Unit: 3627

However, Teller et al. teach a method wherein comparing the initial and current state output signals further includes comparing the determined net load change to the item weight of one or more of the plurality items potentially included in the load (see *e.g. Col. 3, lines 27-35*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Cowe et al., in view of Asher, by including the step of comparing the determined net load change to the item weight of one or more of the plurality items potentially included in the load, as taught by Teller et al., in order to maximize precision in identifying an item.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671, 362), in view of Asher (4,891,755), in further view of Lysaught (6,450,299).

Re claim 17, Cowe et al., in view of Asher, do not explicitly teach a method wherein positioning the load sensors includes positioning one or more of the load sensors between the load storage device and the surface upon which the load storage device rests.

However, Lysaught teaches a method wherein positioning the load sensors includes positioning one or more of the load sensors between the load storage device and the surface upon which the load storage device rests (*See e.g. col. 3, lines 38-48*).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., in view of Asher, and include the steps cited above, as taught by Lysaught., in order to provide reading accuracy.

7. Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowe et al. (5,671,362), in view of Teller et al. (4,961,533).

Re claim 34, Cowe et al. teach a system comprising: a plurality of load sensors positioned to measure a load on a surface and operable to output load signals corresponding to the load (See e.g. col.7, lines 47-52);

Cowe et al. do not explicitly teach a database operable to store a plurality of load records, each load record corresponding to an item type; and a load monitoring system operable to input the load signals and access the database, to thereby output the item type corresponding to the load, based on the load records.

However, Teller et al. teach a database operable to store a plurality of load records, each load record corresponding to an item type ( *See e.g. col. 7, lines 12-39 - the memory of the computer may be preprogrammed with a "full" volume content for each different type of alcoholic beverage and bottle size served at the establishment..., the computer memory will, at all times, contain data indicating the number of bottles in the establishment and the type of alcoholic beverage in each, as well as the liquid volume contents of each*); and a load monitoring system operable to input the load signals and access the database (*see e.g. col. 3, lines 24-27 - the output signal from each sensor is, in turn, applied to a microcomputer which, from its memory, determines the particular bottle placed on that assembly, to thereby output the item type corresponding to the load, based on the load records-* (*See e.g. col. 7, lines 12-39 - The computer can easily upon request group the data for similar types or brands*

Art Unit: 3627

*together to determine the number of bottles and total liquid volume contents, say, for "Scotch" or "Black Label Scotch").*

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to modify Cowe et al., and include the steps cited above, as taught by Teller et al., in order to include automation, better control, accuracy and time management in the system.

Re claim 35, Cowe et al. teach a system wherein the load monitoring system is further operable to determine a position of the load, relative to the surface, based on the load signals (*See e.g. col. 8, lines 41-45*).

Re claim 36, Cowe et al. teach a system wherein the load monitoring system is further operable to monitor an initial state output signal generated by the load sensors, monitor a current state output signal generated by the load sensors, and compare the initial and current state output signals to determine changes in the load (*See e.g. col. 3, lines 9-24*).

Re claim 37, Cowe et al. teach a system wherein the load monitoring system is further operable to recognize an event associated with the load, including an addition to, removal from, or movement on the surface of the load (*See e.g. col. 24, lines 15-42*).

Re claim 38, Cowe et al. teach a system wherein the load monitoring system is further operable to determine dimensions of the load *See e.g. col. 7, lines 31-37*).

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-10, 12-28, 30-38 have been considered but are moot in view of the new grounds of rejection.

Although Teller does use a color scheme for identification of the bottles, he also identifies the bottles based on the sensor output signal (see e.g. col. 3, lines 3 and 4).

Although, the Examiner still believes that Teller's invention, still anticipate some of the limitations claimed by Applicant, the prior art "Asher" is introduced, as the inventor explicitly addresses Applicant claimed limitation of determining an identity of an item based on load change and a pre-load associated with the item. The rejection is made final.

Alternatively, Schneider teaches the same limitations via a an automated point-of-sale machine where a weight change can be detected at check out if a customer either remove an item from the checkout bag or add an item that was not previously accounted for . The item is identified based on its previously stored weight.

Applicants limitations are anticipated by the prior arts cited in the rejection.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3627

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUNA CHAMPAGNE whose telephone number is (571)272-7177. The examiner can normally be reached on Monday - Friday 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian Zeender can be reached on (571) 272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Luna Champagne/  
Examiner, Art Unit 3627

July 16, 2009

/F. Ryan Zeender/

Supervisory Patent Examiner, Art Unit 3627